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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/544,492	04/07/2000	Swain W. Porter	112076-138333	1773

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EXAMINER

SHAH, NILESH R

ART UNIT	PAPER NUMBER
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2195

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/544,492

Applicant(s)

PORTER, SWAIN W.

Examiner

Nilesh Shah

Art Unit

2195

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-15 is/are allowed.
- 6) ☒ Claim(s) 1-12 and 16-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-26 are presented for examination.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 7-12 and 16-22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. A method is not tangibly embodied in a manner so as to be executable. Specifically, as claimed, it is uncertain what performs each of the claimed method steps. Moreover, each of the claimed steps can be practiced mentally in conjunction with a pen and paper. The claimed steps do not define a machine or computer

implemented process (see MPEP 2106). Examiner suggests applicant to change claims from "A method" to "A computerized method for remapping stored privilege of task".

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1,7, 23 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
6. As per claim 1, it is unclear how and when the remapper would remap the privilege level of the task (i.e. is there a flag, interrupt or other type of indication that tells the remapper to remap the privilege level?). Claims 7, 23,25 have the same problems.
7. As per claim 7, it is unclear the relationship between the first and second current privilege level (i.e. is the first level higher or lower than the second level?).

Allowable Subject Matter

8. Claims 13-15 are allowed over prior art of record.
9. Claims 16-18, would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 101, set forth in this Office action.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-12 and 19-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Kane et al (5,596,739) (hereinafter Kane) in view of Behnke (5,864,705) (hereinafter Behnke).

12. As per claim 1, Kane teaches a processor comprising:

a control register accessible to an operating system to store a current privilege level for a task (col. 1 lines 59-64; col. 18 lines 6-20; col. 10 lines 29-57; col. 20 lines 40-63).

a privilege remapper coupled to the control register and configured to remap the stored task privilege level (col. 10 lines 29-32; col. 18 lines 45-57).

13. Kane does not specifically teach the use of an independent operating system.

Behnke teaches the use of an independent operating system (col. 7 lines 40-60; col. 9 lines 60-65; col. 12 lines 39-43).

14. It would have been obvious to one skilled in the art at the time of the invention to combine the teaches of Kane and Bhenke because Behnke's method of using of independent operating system would improve Kane's system by allowing the operating system to run subsystems independently from the other operating system.
15. As per claim 2, Kane teaches a privilege remapper comprises a register to store a plurality of remapped current privilege levels to be accessed using the stored current privilege level prior to runtime privilege checking (col. 18 lines 50-57; col. 10 lines 29-57).
16. As per claim 3, Kane teaches a privilege remapper comprises a storage array to store a plurality of set of remapped current privilege levels to be accessed using a configuration value and the stored current privilege level prior to runtime privilege checking (col. 20 lines 40-63; col. 18 lines 50-57; col. 10 lines 29-57).
17. As per claim 4, Kane teaches a privilege remapper comprises one or more logical elements to logically alter one or more bits of the stored current privilege level prior to runtime privilege checking (col. 1 lines 59-64; col. 10 lines 29-57; col. 18 lines 50-57).
18. As per claim 5, Kane teaches a privilege remapper further comprises at least one selector coupled to at least one of the one or more logical elements to effectuate conditional performance of said logical alteration for at least one bit of the stored current privilege level prior to runtime privilege checking (col. 18 lines 50-57; col. 10 lines 29-57).

19. As per claim 6, Kane teaches a processor further comprises at least one selector coupled to the control register and the privilege remapper to effectuate conditional performance of said remapping of the stored current privilege level prior to runtime privilege checking (col. 16 lines 16-21; col. 18 lines 50-57; col. 10 lines 29-57).

20. As per claim 7, Kane teaches a method comprising:

storing a first current privilege level for a task in a control register accessible to an operating system (col. 1 lines 59-64; col. 18 lines 6-20; col. 10 lines 29-57).

remapping the first current privilege level to a second task privilege level prior to runtime privilege checking to effectuate a different execution privilege level for the task (col. 18 lines 50-57; col. 10 lines 29-57).

Bhenke teaches the use of an independent operating system (col. 7 lines 40-60; col. 9 lines 60-65; col. 12 lines 39-43).

21. As per claim 8, Kane teaches a remapping comprises accessing a register to retrieve a selected one of a plurality of remapped current privilege levels stored in said register, using the stored first task privilege level, prior to runtime privilege checking (col. 18 lines 50-57; col. 10 lines 29-57).

22. As per claim 9, Kane teaches a remapping comprises accessing a storage array to retrieve a selected one of a plurality of remapped current privilege levels stored in said storage

array in a set-wise manner, using a configuration value and the stored first task privilege level, prior to runtime privilege checking (col. 18 lines 50-57).

23. As per claim 10, Kane teaches a remapping comprises logically altering one or more bits of the stored first current privilege level, prior to runtime privilege checking (fig. 2a, col. 5 lines 23-30; col. 10 lines 29-57).

24. As per claim 11, Kane teaches altering being conditionally performed (col. 18 lines 50-57, fig. 2a, col. 5 lines 23-30).

25. As per claim 12, Kane teaches a remapping being conditionally performed (col. 18 lines 50-57, fig. 2a, col. 5 lines 23-30).

26. As per claim 19, Kane teaches a method comprising:

attributing a first more privileged current privilege level to a first subset of least privileged tasks attributed with a least privileged current privilege level for an operating system, for execution by a processor (col. 1 lines 59-64; col. 18 lines 6-20; col. 10 lines 29-57; col. 20 lines 40-63);

remapping said first more privileged current privilege level attributed to said first subset of least privileged tasks to said least privileged privilege level for the execution by the processor, and remapping said least privileged current privilege level attributed to residual ones of said least privileged tasks prior to runtime privilege checking to cause

said first subset of least privileged tasks to execute by the processor with lesser privileges than said residual ones of the least privileged tasks (col. 18 lines 51-57; col. 10 lines 29-57; col. 20 lines 40-63).

Bhenke teaches the use of an independent operating system (col. 7 lines 40-60; col. 9 lines 60-65; col. 12 lines 39-43).

27. As per claim 20, Kane teaches a least privileged current privilege level of said residual ones of said least privileged tasks are remapped to said first more privileged current privilege level (col. 18 lines 51-57; col. 10 lines 29-57).

28. As per claim 21, Kane teaches a method comprising:

attributing a first lesser privileged current privilege level to a first subset of most privileged tasks attributed with a most privileged current privilege level for an operating system, for execution by a processor (col. 4 lines 10-30; col. 18 lines 4-30);
remapping said first lesser privileged current privilege level attributed to said first subset of most privileged tasks to said most privileged current privilege level for execution by a processor, and remapping said most privileged privilege level attributed to residual ones of said most privileged tasks prior to runtime privilege checking to cause said residual ones of the most privileged tasks to be execute by the processor with lesser privileges than said first subset of most privileged tasks (col. 18 lines 51-57; col. 10 lines 29-57; col. 20 lines 40-63).

Bhenke teaches the use of an independent operating system (col. 7 lines 40-60; col. 9 lines 60-65; col. 12 lines 39-43).

29. As per claim 22, Kane teaches wherein said most privileged current privilege level of said residual ones of said most privileged tasks are remapped to said first lesser privileged current privilege level (col. 18 lines 4-30; col. 10 lines 29-57).

30. As per claim 23, Kane teaches the use of a processor comprising:

a control register accessible to an operating system to store a current privilege level for a task, using an instruction of the processor (col. 18 lines 4-30; col. 10 lines 29-57); and a privilege remapper coupled to the control register and configured to remap the stored current privilege level prior to runtime privilege checking (col. 18 lines 51-57; col. 10 lines 29-57; col. 10 lines 29-57).

Bhenke teaches the use of an independent operating system (col. 7 lines 40-60; col. 9 lines 60-65; col. 12 lines 39-43).

31. As per claim 24, Kane teaches the use of an processor further comprises at least one selector coupled to the control register and the privilege remapper to effectuate conditional performance of said remapping of the stored current privilege level prior to runtime privilege checking (col. 18 lines 5-30, col. 18 lines 51-57; col. 10 lines 29-57).

32. Claim 25 is rejected based on the same rejection as claims 1 above.


33. Claim 26 is rejected based on the same rejection as claims 6 above.

Conclusion

34. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nilesch Shah whose telephone number is (571)272-3771. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng An can be reached on (571)272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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May 25, 2005